

REMARKS

Claims 1-9 are all the claims pending in the application. Claim 1 has been amended to include the limitations of claims 2 and 3. New claim 10 has been added. Claim 10 substantially corresponds to claim 1 + claim 9. Claims 2, 3 and 5-9 have been canceled.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Gianos et al. (US Pat No. 4,014,653). Claims 2-4, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gianos '653. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gianos '653 in view of Byrns (US Pat. No. 3,932,153). Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gianos '653 in view of Cosack US Pat No. 5,096,575. For the following reasons, Applicant respectfully traverses these rejections.

Claim 1 recites:

A porous membrane cartridge for extracting a nucleic acid,
comprising:
a cylindrical barrel having openings at a top end and a rear end,
respectively;
a cap formed into a cylindrical shape having a fit-in portion fitted
outside said top end, abutting with an opening edge of said top end, and
having a sandwiching face for sandwiching a porous membrane between
itself and said barrel; and
said porous membrane sandwiched between the opening edge of
said barrel and said cap,
wherein said cap is fixed to said barrel so as not to be pulled out of
the barrel in a state of crushing a peripheral edge of said porous membrane
and sandwiching the porous membrane between itself and said cap;
wherein a diameter of an inner end of the opening edge matches a
diameter of an end at an inner perimeter side of the sandwiching face;
wherein the opening edge of said barrel and the sandwiching face of
said cap are welded by ultrasonic welding with a pressing force between
75N and 200N; and

wherein in addition that the opening edge of said barrel is formed to a taper where an inner perimeter side is more retreated than an outer perimeter side, said opening edge is welded to the sandwiching face of said cap.

The prior art does not teach or suggest such a porous membrane cartridge having the features recited above, or the important advantages associated therewith.

In particular, Applicant respectfully submit that there is no teaching or suggestions in any of the prior art references that the cartridge of the present invention can prevent a discharged liquid from being contaminated by a liquid (for example, an inspected object, a detergent, and a recovery liquid) going around the side portion of the porous membrane and can maintain the sandwiched state even in the case of a temperature change and a humidity change because the opening edge of the barrel and the sandwiching face of the cap hold the peripheral portion of the porous membrane in a state of being crushed (see specification at page 1, line 2 from last to page 2, line 4 from last).

Claim 10 recites:

A porous membrane cartridge for extracting a nucleic acid,
comprising:
a cylindrical barrel having openings at a top end and a rear end,
respectively;
a cap formed into a cylindrical shape having a fit-in portion fitted
outside said top end, abutting with an opening edge of said top end, and
having a sandwiching face for sandwiching a porous membrane between
itself and said barrel;
said porous membrane sandwiched between the opening edge of
said barrel and said cap,
wherein said cap is fixed to said barrel so as not to be pulled out of
the barrel in a state of crushing a peripheral edge of said porous membrane
and sandwiching the porous membrane between itself and said cap;

wherein a diameter of an inner end of the opening edge matches a diameter of an end at an inner perimeter side of the sandwiching face; and wherein after said cap and said porous membrane are inserted in a cavity of an injection molding mold, a shape of a portion of said barrel is molded by injecting a molding material in said cavity.

It is submitted that the prior art does not teach or suggest this aspect of the invention either.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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